

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Implementation of Section 304 of the)	CS Docket No. 97-80
Telecommunications Act of 1996)	
)	
Commercial Availability of Navigation Devices)	
)	
Compatibility Between Cable Systems and)	PP Docket No. 00-67
Consumer Electronics Equipment)	

**REPLY COMMENTS
OF THE NATIONAL ASSOCIATION OF BROADCASTERS
AND
THE ASSOCIATION FOR MAXIMUM SERVICE TELEVISION, INC.**

The National Association of Broadcasters (“NAB”) and the Association for Maximum Service Television, Inc. (“MSTV”)¹ hereby file reply comments in the above-referenced proceeding on the Memorandum of Understanding and proposed Commission rules submitted by the Consumer Electronics Association (“CEA”) and the National Cable Television Association (“NCTA”) on a cable compatibility standard for

¹ NAB serves and represents the American broadcast industry as a nonprofit, incorporated association of radio and television stations and broadcast networks. MSTV represents nearly 400 local television stations on technical issues relating to analog and digital television services.

the long-awaited “cable-ready” digital television.² The Agreement addresses both the technical requirements for direct connection of unidirectional digital receivers and other devices to digital cable systems and the provision of tuning and schedule information to support the navigation function of digital television receivers, including on-screen program guides.

I. Over-the-Air Tuning Capability Should Be Included in the Cable-Ready Rules.

The central point of NAB and MSTV’s initial comments was the glaring omission from the digital cable-ready specifications in the Agreement of support for the ATSC Digital Television Standard A/53B which would ensure inclusion of over-the-air digital reception capability in cable-ready digital receivers.³ As we discussed in our comments, consumers simply assume that “television receivers,” including cable-ready television receivers, will be able to receive over-the-air television signals. *Id.* at 6-7. Cable-ready sets in the analog world tune over-the-air-broadcasts, and they should as well in the digital world, for the benefit of consumers and for the benefit of the digital transition.

² *Memorandum of Understanding Among Cable MSOs and Consumer Electronics Manufacturers* (hereinafter “Agreement”) (signed by Charter Communications, Inc., Comcast Cable Communications, Inc., Cox Communications, Inc., Time Warner Cable, CSC Holdings, Inc., Insight Communications Company, L.P., Cable One, Inc., Advance/Newhouse Communications, Hitachi America, Ltd., JVC Americas Corp., Mitsubishi Digital Electronics America, Inc., Matsushita Electric Corp. of America (Panasonic), Philips Consumer Electronics North America, Pioneer North America, Inc., Runco International, Inc., Samung Electronics Corporation, Sharp Electronics Corporation, Sony Electronics, Inc., Thomson, Toshiba America Consumer Electronics, Inc., Yamaha Electronics Corporation. USA, and Zenith Electronics Corporation).

³ Comments of NAB and MSTV, CS Docket No. 97-80 and PP Docket No. 00-67, March 28, 2003 (“NAB and MSTV Comments”).

NAB and MSTV note that none of the comments submitted in response to the *Notice*⁴ in this proceeding by parties to the Agreement or by those who represent parties to the Agreement explained or supported the absence of over-the-air tuning capability or otherwise addressed its absence.⁵ The need to rectify this obvious omission was, however, pointed out in the comments of Sinclair Broadcast Group, which, like NAB and MSTV, urged the Commission to ensure that digital cable compatible television receivers implemented pursuant to the Agreement also have the capability of providing reception of over-the-air DTV signals.⁶

As NAB and MSTV described in our comments, the lack of 8-VSB tuning capability in the long-awaited “cable-ready” receivers would be contrary to the public interest, contrary to the assumptions of the DTV technical community and key policy makers, undermine the DTV Tuner mandate and slow the DTV transition by seeding more consumer confusion and by enabling the purchase of DTV receivers that would not advance the 85% threshold for reaching the end of the transition.⁷ The lack of over-the-

⁴ *Further Notice of Proposed Rule Making*, In the Matter of Compatibility Between Cable Systems and Consumer Electronic Equipment, CS Docket No. 97-80, PP Docket No. 00-67 (rel. Jan. 10, 2003).

⁵ Joint Comments of the Consumer Electronics Association and the Consumer Electronics Retailers Coalition, CS Docket No. 97-80 and PP Docket No. 00-67, March 28, 2003 (“Consumer Electronics Industry Comments”); Comments of Zenith Electronics Corporation, CS Docket No. 97-80 and PP Docket No. 00-67, March 28, 2003; Comments of the National Cable & Telecommunications Association, CS Docket No. 97-80 and PP Docket No. 00-67, March 28, 2003; Comments of Comcast Corporation, CS Docket No. 97-80 and PP Docket No. 00-67, March 28, 2003.

⁶ Comments of Sinclair Broadcast Group Inc., CS Docket No. 97-80 and PP Docket No. 00-67, March 28, 2003, *passim*.

⁷ NAB and MSTV Comments, *supra*, at 1-8.

air tuning capability in cable ready receivers will, in fact, foster consumer confusion, frustrate consumers' expectations⁸ and leave them with less capable devices.

Despite the lack of comment by representatives of parties to the instant Agreement in their comments here, inclusion of the ATSC DTV broadcast standard in cable-ready DTV receivers has been long-contemplated by the consumer electronics industry. Indeed, a 1998 letter by Gary Shapiro, President of the Consumer Electronics Association, to then-FCC Chairman Kennard about DTV/cable compatibility included a discussion of digital cable-ready receivers and the proposed specifications for them that were a result of joint cable and consumer electronics industries meetings and which included, as "Essential Elements," "support [for the] 'ATSC Digital Television Standard' A/53, which describes the overall system characteristics of the U.S. Advanced Television System," as well as the capability in digital television receivers to demodulate the 64/256 QAM [cable] modulation and the 8/16 VSB modulation defined in ATSC Standard A/53B."⁹

⁸ "Consumers reasonably expect that in the future their TVs will receive broadcast signals just as they do today." *Regarding the Transition to Digital Television: Hearings Before the Subcomm. On Telecommunications and the Internet*, 107th Cong. (Sept. 25, 2002) (prepared statement of The Hon. Billy Tauzin). In this same regard, Chairman Michael Powell, upon adoption of the DTV Tuner Order, said that "consumers will expect their television sets to go on working in the digital world just as they do today. This includes the ability to receive broadcast signals. Indeed, the expectation that TV sets receive broadcast signals is so ingrained that consumers simply assume this functionality is incorporated into their television set." *Second Report and Order and Second Memorandum Opinion and Order*, MM Docket No. 00-39 (rel. Aug. 9, 2002) Separate Statement of Chairman Michael K. Powell.

⁹ Letter from Gary Shapiro to Chairman William E. Kennard, September 10, 1998, attaching the proposal of the Caucus of the Cable-consumer Electronics Compatibility Advisory Group for specifications of a digital cable-ready television receiver, attached hereto as Attachment A.

The comments of the Consumer Electronics Association acknowledge that it would be “at relatively trivial cost” to include both ATSC (over-the-air broadcast) tuners and digital cable tuners in one receiver.¹⁰ And their comments seem to imply that consumer electronics companies will build both reception capabilities into receivers,¹¹ but inexplicably the Agreement with the cable industry omits this seemingly obvious and long-assumed component of cable-ready digital receivers.

The absence of off-air tuning capability from the Agreement is, however, so striking and contrary to expectations that the Commission should be left questioning why it was omitted. Perhaps it was simply assumed that it would be automatically included in all cable-ready digital sets, perhaps it was an oversight in revising the “essential elements” since the 1998 requirements list cited above, or perhaps it was intentionally omitted at some point.

In any event, the public interest, consumer expectations, the reasoning behind the DTV Tuner mandate and the smooth advance of the digital transition to a swift conclusion all militate for inclusion of over-the-air reception capability by the FCC in the required elements of a digital cable-ready receiver to be adopted into the Commission’s rules.

In a similar vein, Telecommunications for the Deaf, Inc. (“TDI”) and Rich Baudisch have questioned the inclusion of another “assumed” element of cable-ready digital receivers: closed captioning display functionality.¹² They request the Commission

¹⁰ Consumer Electronics Industry Comments, *supra*, at 4.

¹¹ *Id.*

¹² Comments of Telecommunications for the Deaf, Inc., CS Docket No. 97-80 and PP Docket No. 00-67, March 27, 2003; Comments of Rich Baudisch, CS Docket No. 97-80 and PP Docket No. 00-67, January 2, 2003, April 3, 2003.

to specifically require all “plug and play” technology to meet all existing and future requirements for provision of closed captioning services. Whether their concerns in this regard are justified or not, NAB and MSTV suggest that requiring over-the-air digital reception capability in the digital cable-ready receiver requirements to be adopted into the Commission’s rules will serve the public interest in both regards: cable-ready “televisions” will meet consumer expectations as to over-the-air capability and, so equipped with a broadcast tuner, closed captioning and ratings information will be assured by virtue of the requirements of 47 U.S.C. §§ 303(u), (x), 330(b), (c).

II. Certain Technical Rules Must Be Refined.

There are some key areas of concern that the Commission must address when the SCTE voluntary standards referred to in the Agreement are incorporated into the FCC rules.

- The Agreement did not update the referenced revisions to the SCTE standards cited in the proposed rules. The SCTE process has resulted in editorial changes in the final released standards¹³, and those final documents should form the basis of any incorporation into the rules.
- The Agreement urges adoption of the February 2000 PSIP agreement, but does not point out that it is the “Requirements” section of the PSIP agreement that contains the mandatory elements to be included in the FCC rules. Below, we point out that, in addition, all PSIP data in the broadcast stream should be carried in its entirety in-band by the cable operator.

¹³ For example, the designation of the SCTE- approved document that resulted from incorporation of DVS/535 into SCTE 40 2001 is SCTE 40 2003.

- Some of the SCTE standards suggested for inclusion in the FCC rules contain mandatory language of a detailed technical nature that is inappropriate or inconsistent with inclusion in the FCC rules.

Specific details of these areas of concern and our recommended solutions to resolve them are explained below.

SCTE 40 2003¹⁴

NAB and MSTV believe that 8 and 16 VSB transmission modes should be explicitly included in the FCC rules as optional cable transmission modulation schemes and parts of the documents referenced in the Agreement deal with this option.¹⁵ SCTE 40 2003 defines the technical parameters including the 6 MHz channel frequencies for NTSC and QAM and the document acknowledges on the first page that the standard was not intended to preclude other modulation types.¹⁶ However, later on in the document this option is nullified by the statement “only NTSC and QAM shall be present”.¹⁷

VSB transmission may provide one way to ease the cost burden of carrying DTV broadcast signals on cable systems that otherwise would have to use QAM and the remultiplexing equipment it entails¹⁸. Some cable systems could use a slightly upgraded version of their current NTSC equipment to accommodate a broadcast DTV channel for minimal additional investment. Prohibiting VSB transmission may place an unnecessary

¹⁴ The proper designation for the relevant publicly available standard.

¹⁵ The RF relationships for 8 and 16 VSB usage on cable are documented in EIA/CEA 818D, and a note is made in CEA-542 (which is referenced in EIA/CEA 818D) about use of 8 VSB with the off-air channel frequency plan.

¹⁶ SCTE 40 2003 pg. 1, note 1 documents this agreement stating: “Nothing in this standard precludes the use of other modulation modes.”

¹⁷ SCTE 40 2003 section 3.3.1

¹⁸ Cost burdens of adding DTV on small cable systems are described in Comments of the American Cable Association, CS Docket No. 97-80 and PP Docket No. 00-67, March 28, 2003.

burden on the marketplace and eliminate a workable choice when there is no need to do so. The marketplace decision by a cable operator to choose QAM or VSB must be preserved. The Commission should specifically allow (but not require) the use of 8VSB or 16 VSB modulation on cable systems using the off-air or cable frequency plans.¹⁹

Section 5.8.2 of SCTE 40 2003 permits the in-band DTV carriage of only DVS157-style closed captions, by referencing DVS/258rev.3 (which is now SCTE 43 2003). The FCC has already ruled on the appropriateness of the DVS157-style captions²⁰ and needs to reconcile the referenced standard with the existing cable rules. When DTV captions are provided with a program, the FCC should require the use of 708-rule compliant captions along with the PSIP caption service descriptor. To accomplish this, the Commission needs to specify the appropriate caption rules instead of the current wording in section 5.8.2 of SCTE 40 2003.²¹

ANSI/SCTE 54 2003

This SCTE standard defines the structure and method for carriage of both one-part and two-part channel numbers in section 5.7.1.1. However, the standard permits

¹⁹ See Attachment A at Cable Compatibility Issues at 1, number 4, for the 1998 cable/consumer electronics “requirement” of including 8/16 VSB as optional cable transmission modulation schemes.

²⁰ Report and Order, ET Docket No. 99-254 and MM Docket No. 95-176, released July 31, 2000, at ¶ 48.

²¹ The language NAB and MSTV propose is: “Advanced DTV closed captions, when present, shall be encoded in accordance with EIA-708-B [13] and shall be transported in accordance with ATSC A/53B (note that advanced DTV captions are signaled in A/53 by setting the cc_type field to '10' or '11'). When caption services are present for current programs, the caption_service_descriptor(), as defined in ATSC A/65-B, shall be present in either (a) the EIT-0; (b) in the ES_info descriptor loop of the PMT; or (c) in both places. When caption services are expected to be present for future programs and EIT data is present in the Transport Stream, the caption_service_descriptor() may be present in the appropriate EIT. Caption service descriptors shall not be removed from a broadcaster’s DTV signal.”

replacement of a two-part channel number with a one-part number. NAB and MSTV believe that this represents an inappropriate and harmful alteration of the broadcast DTV signal. The Commission should explicitly disallow a cable operator's removal of the two-part channel number when it is present in a broadcast signal and require that the channel number provided by the broadcaster's PSIP information be available to cable subscribers for channel identification and navigation purposes.

PSIP data structures are defined in SCTE 54 2003, but the Agreement does not require carriage of the PSIP data. The February 2000 PSIP agreement (which is part of the Agreement) requires the carriage of PSIP data including 12 hours of event information tables. NAB and MSTV urge the FCC to mandate that, when a digital Transport Stream (TS) of a broadcast signal contains PSIP data (per A/65B), the PSIP data shall be carried in its entirety by the cable operator in-band.²²

III. Conclusion

For the foregoing reasons and those discussed in our initial comments, NAB and MSTV respectfully request that the Commission, in adopting rules regarding cable-ready digital receivers, act to protect the consumer and the DTV transition by requiring over-the-air digital reception capability for such receivers, by refining certain technical rules

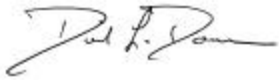
²² To the degree such data is repackaged and re-indexed to meet the technical requirements of ANSI/SCTE 54 2003, the rule must require that such in-band data shall still accurately describe the services carried within the reformed Transport Stream carrying the PSIP data.

and by ensuring that consumers can fully access and use the program and tuning (PSIP) information carried in the broadcast stream.

Respectfully submitted,

**ASSOCIATION FOR MAXIMUM
SERVICE TELEVISION, INC.**

1776 Massachusetts Avenue, NW
Washington, DC 20036



David Donovan
Victor Tawil

**NATIONAL ASSOCIATION OF
BROADCASTERS**

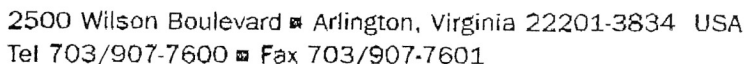
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April 28, 2003



compatibility concerns are important, DTV receivers will also need to interface with a broad range of digital (and analog) devices, such as computers, VCRs, satellite receivers, DVD players, and digital surround sound processors. The CE industry is working to develop the 1394 standard as a broadly applicable interface that eliminates consumer confusion and allows cost-effective solutions for future generations of DTV and other digital products.

As you know, in 1992 Congress asked the Commission to develop regulations ensuring that consumers would be able to use competitively provided consumer electronics equipment (such as television receivers and videocassette recorders) with their cable systems. Pursuant to Congress' directive, the Commission asked CEMA and the National Cable Television Association (NCTA) to form an advisory group representing both industries. The two associations then formed the Cable Consumer Electronics Advisory Group (C3AG). As part of the C3AG process, CEMA earlier this year referred to NCTA a proposal (attached) for a "cable ready" digital receiver standard that would include a QAM demodulator and other critical features.

"Cable Ready" is an important compatibility solution because it will allow cable systems to connect directly to receivers, eliminating the compatibility problems associated with set-top boxes and reducing the cost and complexity of the equipment a consumer must have in the home. As of this date CEMA has received no response from the NCTA to our proposal, even though this proposed specification was the result of joint meetings between the cable and the consumer electronics industries and identified the key issues (such as PSIP, receiver performance, cable system signal, etc.) that must be addressed as digital cable systems come on line.

In the meantime, Cablelabs' OpenCable initiative has created the opportunity for addressing short-term interoperability issues based on a component video interface, which some of our member companies have chosen to adopt.

We are aware that OpenCable also intends to address longer-term interoperability options, and we urge harmonization of that initiative with the standardization efforts of CEMA as key to the timely deployment of effective long-term solutions.

I would note that CableLabs itself is not a standard setting body, but rather a cable industry consortium run by and for the benefit of select members of that industry. CEMA is concerned that, without the full and open participation of interested parties like broadcasters, content providers, and consumer electronics manufacturers, CableLabs may devise an overly complex and unnecessarily costly 1394 standard, as compared to the more basic standard that is evolving through CEMA's open 1394 standards process. Such a result, while potentially beneficial to cable system operators, could force consumers to pay for expensive capabilities in their DTV receivers that they may not want or need.

CEMA will maintain its aggressive commitment to resolving DTV compatibility issues for the benefit of the American consumer. We have a long history of working with the

Chairman Kennard/3

cable industry and welcome your invitation to continue our efforts at harmonization. We believe that for these issues to be fully settled, the cable industry must engage with the consumer electronics industry and other industries in such a way as to ensure that the interests of all parties receive full and fair consideration. Your personal involvement in urging cooperation and open participation in the CableLabs process would be most useful to achieve a balanced and consumer-friendly result.

Sincerely,

A handwritten signature in black ink, appearing to read 'Gary Shapiro', with a stylized, flowing script.

Gary Shapiro

Attachments

June 26, 1998

Mr. Andrew Scott
National Cable Television Association

Mr. Walter Ciciora
Co-Chair of C3AG

Dear Andy and Walt:

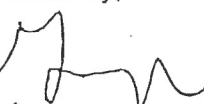
Since the last JEC meeting, the TV/VCR Caucus of C3 has met to discuss and refine its recommendations for cable-receiver compatibility in the digital (DTV) domain. Enclosed is the brief paper describing the Caucus's conclusions, including both the basic elements—which we believe reflect the standards and requirements associated with making a DTV receiver 'cable-ready' and the additional elements or options which may need to be addressed.

Let me also advise you that Ed Milbourn has now stepped down from chairing the Caucus, and that Peter Fannon, General Manager and Director, Government and Public Affairs, Panasonic/Matsushita Electric Corporation of America, has agreed to assume the chair. He also agreed, with the Caucus's consent to be the CE Co-Chair of C3 and C4.

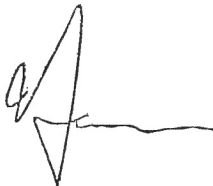
Given the importance of Cable-CE compatibility for the TV industry's DTV roll-out, and now with the availability of the FCC's recent rules on 'Navigation Devices', we believe it would be appropriate to meet as soon as possible to advance agreement, through the C3AG, on the technical requirements for DTV compatibility. Please let me know your availability; and, in the meantime, perhaps we can set a schedule and agenda in the near future.

Ralph Justus from my staff and Peter Fannon are planning to attend the OpenCable meeting next week in Denver and will be happy to discuss the attached paper with you.

Sincerely,



George Hanover
Vice President, Engineering
Consumer Electronics Manufacturers Association



Attachment

cc: Peter Fannon (Panasonic/Matsushita)
Ralph Justus (CEMA)

Cable-Compatibility Issues

The role of the TV/VCR Caucus ("Caucus") Cable-Consumer Electronics Compatibility Advisory Group ("C3AG") is to provide guidance for increasing compatibility between cable television systems and television receivers.

I. Essential Elements for the Interface Between Digital Cable Systems and Digital Receivers

The Caucus has identified and agreed upon a set of essential cable delivery standards and complementary television reception standards to provide a cable-ready system for the emerging digital television environment. While there are important additional elements to be addressed-in particular the goals and requirements of the FCC's recent Rules regarding "Navigation Devices" - the following specifications represent the agreed set, which have been developed by and which represent the consensus of standards organizations closely involved in cable and broadcast television.

Therefore, the Caucus states that digital cable-ready receivers and digital cable televisions systems will:

1. Support "ATSC Digital Television Standard" A/53, which describes the overall system characteristics of the U.S. Advanced Television System;
2. Follow RF performance recommendations per draft EIA-23 "RF Interface Specification for Television Receiving Devices and Cable Television Systems", which defines tuner and corresponding cable signal characteristics;
3. Tune cable channels per EIA-542 "Cable Television Channel Identification Plan" which lists the frequencies to be used for each cable channel;
4. Use in digital cable systems 64/256 QAM modulation as specified in SCTE Standard DVS-031 "Digital Transmission Standard for Cable Televisions", or 8/16 VSB modulation defined in ATSC Standard A/53, or both, at the election of the cable system operator and provide in digital television receivers the capability to demodulate all of them;
5. Support draft SCTE Standard DVS-093 "Digital Video Service Multiplex and Transport System Standard for Cable Television", which defines the MPEG-2 packetization of program material;
6. Use only the transmission video display formats defined in ATSC Standard A/53, Table 3, [and SCTE Standard DVS-033 (Table 2) "Submission on 'Class A' Issues - Profiles, Levels and Formats"],

Cable-Compatibility Issues (Cont'd)

7. Use the "Program and System information Protocol for Terrestrial Broadcast and Cable" ("PSIP") as provided in ATSC A/65 and in SCTE Standard DVS-097, which defines the in-band data format for tuning parameters, V-chip information, and on screen electronic Program Guides; and,

8. Support emergency messaging, the mechanism for which is currently under review by industry committees (such as ATSC and SCTE) and the FCC.

It is understood that this set defines the necessary interface between the digital cable system and the "cable-ready" digital television receiver.

II. Additional Options and Further Considerations

The Caucus also believes that there are opportunities for extending the functionality of digital television receivers for use with the plans and changes in services for digital cable systems.

For example, the recent action of the FCC on "Navigation Devices" must be addressed by industry. Indeed, there are already several completed and draft standards for many of the elements needed in this area, including the EIA -679 "National Renewable Security Systems" (NRSS), an application of IEEE 1394, a component video connection under the EIA-770 standard series, etc. Also, there is the on-going "OpenCable" initiative, which may contribute additional recommendations. All of this offers cable system operators and TV receiver manufacturers the ability to create appropriate interfaces for various purposes, including interconnection for "set-top" boxes, "set-back" boxes, devices with a combination of functions, new services, etc.

In addition, the Caucus believes it is critical to address promptly other outstanding matters, such as in-band/out-of-band signalling and other interoperability issues, in order to promote a rapid transition to digital television.

There maybe other matters, which require consideration, such as appropriate copy protection measures and interconnection among other CE equipment.

III. Conclusion

Together, the above essential set of parameters and appropriate, well-defined options will provide both sufficient certainty and reasonable flexibility to consumers, cable operators and service providers, as well as, consumer equipment manufacturers, for the successful and speedy introduction of digital cable television and digital TV receivers.

6/26/98